

10/526,045

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LOGINID:ssspat1201txs

PASSWORD:

LOGINID/PASSWORD REJECTED

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Do you wish to use the same loginid and password?

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Enter new loginid (or press [Enter] for ssspat1201txs):

Enter new password:

LOGINID:

LOGINID:ssspat1201txs

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS	1	Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	"Ask CAS" for self-help around the clock
NEWS	3 FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS	4 MAY 10	CA/CAPplus enhanced with 1900-1906 U.S. patent records
NEWS	5 MAY 11	KOREAPAT updates resume
NEWS	6 MAY 19	Derwent World Patents Index to be reloaded and enhanced
NEWS	7 MAY 30	IPC 8 Rolled-up Core codes added to CA/CAPplus and USPATFULL/USPAT2
NEWS	8 MAY 30	The F-Term thesaurus is now available in CA/CAPplus
NEWS	9 JUN 02	The first reclassification of IPC codes now complete in INPADOC
NEWS	10 JUN 26	TULSA/TULSA2 reloaded and enhanced with new search and and display fields
NEWS	11 JUN 28	Price changes in full-text patent databases EPFULL and PCTFULL
NEWS	12 JUL 11	CHEMSAFE reloaded and enhanced
NEWS	13 JUL 14	FSTA enhanced with Japanese patents
NEWS	14 JUL 19	Coverage of Research Disclosure reinstated in DWPI
NEWS	15 AUG 09	INSPEC enhanced with 1898-1968 archive

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NEWS 16 AUG 28 ADISCTI Reloaded and Enhanced
NEWS 17 AUG 30 CA(SM)/CAplus(SM) Austrian patent law changes
NEWS 18 SEP 11 CA/CAplus enhanced with more pre-1907 records

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS LOGIN Welcome Banner and News Items
NEWS IPC8 For general information regarding STN implementation of IPC 8
NEWS X25 X.25 communication option no longer available

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 11:57:25 ON 12 SEP 2006

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 11:57:37 ON 12 SEP 2006
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STRUCTURE FILE UPDATES: 11 SEP 2006 HIGHEST RN 906423-10-7
DICTIONARY FILE UPDATES: 11 SEP 2006 HIGHEST RN 906423-10-7

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REGISTRY includes numerically searchable data for experimental and
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on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> e propylene oxide/cn

E1	1	PROPYLENE OCTAHYDRATE/CN
E2	1	PROPYLENE OLEOSTEARATE/CN
E3	1 -->	PROPYLENE OXIDE/CN
E4	1	PROPYLENE OXIDE ADDUCT OF 4,4'-ISOPROPYLIDENEDIPHENOL/CN
E5	1	PROPYLENE OXIDE CYCLIC PENTAMER/CN
E6	1	PROPYLENE OXIDE CYCLIC PENTAMETER/CN
E7	1	PROPYLENE OXIDE ETHER WITH POLYETHYLENE GLYCOL MONOBUTYL MON
		OGLYCERYL ETHER-IPDI COPOLYMER/CN
E8	1	PROPYLENE OXIDE ETHER WITH POLYETHYLENE GLYCOL MONOBUTYL MON
		OGLYCERYL ETHER-MDI COPOLYMER/CN
E9	1	PROPYLENE OXIDE HEXAFLUORIDE/CN
E10	1	PROPYLENE OXIDE HOMOPOLYMER/CN
E11	1	PROPYLENE OXIDE HOMOPOLYMER DIETHANOLAMINE ETHER/CN
E12	1	PROPYLENE OXIDE HOMOPOLYMER ETHER WITH DIGLYCERIN/CN

=> s e3

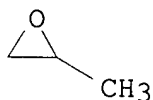
L1 1 "PROPYLENE OXIDE"/CN

=> d 11

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 75-56-9 REGISTRY
ED Entered STN: 16 Nov 1984
CN Oxirane, methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Oxypropylene (6CI)
CN Propane, 1,2-epoxy- (7CI)
CN Propylene oxide (8CI)
OTHER NAMES:
CN (±)-1,2-Epoxypropane
CN (±)-2-Methyloxirane
CN (±)-Epoxypropane
CN (±)-Methyloxirane
CN (±)-Propylene oxide
CN 1,2-Epoxypropane
CN 1,2-Propylene oxide
CN 2,3-Epoxypropane
CN AD 6
CN AD 6 (suspending agent)
CN DL-1,2-Epoxypropane
CN dl-Propylene oxide
CN Epihydrin
CN Epoxypropane
CN Methyloxacyclopropane
CN Methyloxirane

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CN Propene oxide
CN Propozone
CN Propylene epoxide
FS 3D CONCORD
DR 16033-71-9
MF C3 H6 O
CI COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS, BIOTECHNO,
CA,
CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX,
CHEMLIST,
CHEMSAFE, CIN, CSChem, CSNB, DETHERM*, EMBASE, ENCOMPLIT, ENCOMPLIT2,
ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, MRCK*, MSDS-OHS, PIRA, PROMT, PS, RTECS*, SPECINFO,
TOXCENTER,
TULSA, ULIDAT, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12966 REFERENCES IN FILE CA (1907 TO DATE)
2727 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12990 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file cpalus
'CPALUS' IS NOT A VALID FILE NAME
SESSION CONTINUES IN FILE 'REGISTRY'
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available. If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	7.98	8.19

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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	ENTRY	SESSION
FULL ESTIMATED COST	0.44	9.09

FILE 'CAPLUS' ENTERED AT 12:00:25 ON 12 SEP 2006
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FILE COVERS 1907 - 12 Sep 2006 VOL 145 ISS 12
FILE LAST UPDATED: 11 Sep 2006 (20060911/ED)

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<http://www.cas.org/infopolicy.html>

=> s 11

L2 12990 L1

=> s 12 and (process or prepar? or make or made or method or synthes?)

2304640 PROCESS
1563741 PROCESSES
3439636 PROCESS
(PROCESS OR PROCESSES)
1681234 PREPAR?
125246 PREP
2199 PREPS
127239 PREP
(PREP OR PREPS)
2031239 PREPD
17 PREPDS
2031251 PREPD
(PREPD OR PREPDS)
127757 PREPG
12 PREPGS
127768 PREPG
(PREPG OR PREPGS)
2739604 PREPN
205639 PREPNS
2894729 PREPN
(PREPN OR PREPNS)

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4805015 PREPAR?
      (PREPAR? OR PREP OR PREPD OR PREPG OR PREPN)
240578 MAKE
185957 MAKES
413610 MAKE
      (MAKE OR MAKES)
1229354 MADE
      26 MADES
1229375 MADE
      (MADE OR MADES)
3193545 METHOD
1301335 METHODS
4128224 METHOD
      (METHOD OR METHODS)
1560489 SYNTHES?
L3      10013 L2 AND (PROCESS OR PREPAR? OR MAKE OR MADE OR METHOD OR
SYNTHES?
      )

=> s l3 and propane
      80004 PROPANE
      1120 PROPANES
      80580 PROPANE
      (PROPANE OR PROPANES)
L4      509 L3 AND PROPANE

=> s l4 and fraction?
      871105 FRACTION?
L5      25 L4 AND FRACTION?

=> s l4 and hydrogen peroxide
      942928 HYDROGEN
      5828 HYDROGENS
      946184 HYDROGEN
      (HYDROGEN OR HYDROGENS)
      205914 PEROXIDE
      46367 PEROXIDES
      224077 PEROXIDE
      (PEROXIDE OR PEROXIDES)
      111089 HYDROGEN PEROXIDE
      (HYDROGEN(W) PEROXIDE)
L6      16 L4 AND HYDROGEN PEROXIDE

=> s l5 and hydrogen peroxide
      942928 HYDROGEN
      5828 HYDROGENS
      946184 HYDROGEN
      (HYDROGEN OR HYDROGENS)
      205914 PEROXIDE
      46367 PEROXIDES
      224077 PEROXIDE
      (PEROXIDE OR PEROXIDES)
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10/526,045

111089 HYDROGEN PEROXIDE
(HYDROGEN(W) PEROXIDE)
L7 0 L5 AND HYDROGEN PEROXIDE

=> dup rem 15 16
PROCESSING COMPLETED FOR L5
PROCESSING COMPLETED FOR L6
L8 41 DUP REM L5 L6 (0 DUPLICATES REMOVED)

=> d l8 ibib hitstr abs 1-41

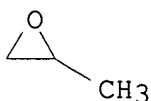
L8 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:203821 CAPLUS
DOCUMENT NUMBER: 140:236204
TITLE: An integrated method for production of
propylene oxide
INVENTOR(S): Bender, Michael; Zehner, Peter; Machhammer, Otto;
Mueller, Ulrich; Harth, Klaus; Schindler,
Goetz-Peter;
Junicke, Henrik
PATENT ASSIGNEE(S): BASF Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004020423	A1	20040311	WO 2003-EP9616	20030829
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
DE 10240129	A1	20040519	DE 2002-10240129	20020830
DE 10240129	B4	20041111		
CA 2496954	AA	20040311	CA 2003-2496954	20030829
AU 2003266329	A1	20040319	AU 2003-266329	20030829
EP 1537092	A1	20050608	EP 2003-790944	20030829
EP 1537092	B1	20060607		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			

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CN 1688560	A	20051026	CN 2003-824612	20030829
AT 328876	E	20060615	AT 2003-790944	20030829
US 2005245751	A1	20051103	US 2005-526045	20050228
PRIORITY APPLN. INFO.:			DE 2002-10240129	A 20020830
			WO 2003-EP9616	W 20030829

IT 75-56-9P, Propylene oxide, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(integrated method for production of)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB An integrated method for production of propylene oxide comprises at least the steps of (a) dehydrogenation of propane to obtain a partial stream T(0) containing at least propane, propene and hydrogen, (b) separation of the partial stream T(0) to obtain at least one gaseous partial stream T(2) with high hydrogen content and a partial stream T(1) containing at least propene and propane, (c) synthesis of hydrogen peroxide using the partial stream T(2) to produce a partial stream T(4) with high hydrogen peroxide content and a gaseous partial stream T(6), (d) separation of the partial stream T(1) to obtain at least one partial stream T(5) with high propane content and at least one partial stream T(3) with high propene content, and (e) reaction of the partial stream T(3) with the partial stream T(4) to obtain propylene oxide.

The epoxidn. step (e) can be carried out in the presence of catalysts. The propane quality is not critical, pure propane as well as recycled propane containing byproducts substantially unaffected by dehydrogenation can be used.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

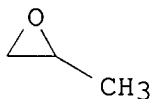
L8 ANSWER 9 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:832773 CAPLUS
DOCUMENT NUMBER: 137:325788
TITLE: Integrated process for the production of olefin oxides
INVENTOR(S): Romano, Ugo; Occhiello, Ernesto; Paludetto, Renato
PATENT ASSIGNEE(S): Polimeri Europa S.p.A., Italy

10/526,045

SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085875	A1	20021031	WO 2002-EP3299	20020321
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			IT 2001-MI859	A 20010424

IT 75-56-9P, Propylene oxide, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(integrated process for production of olefin oxides)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB Integrated process for the production of olefin oxides in which a dehydrogenation unit, a hydrogen peroxide synthesis unit and an epoxidn. unit of C₂-C₅ olefins are integrated with each other and wherein the hydrogen coming from the dehydrogenation forms a raw material for the preparation of hydrogen peroxide which is fed to the epoxidn. unit together with the olefin produced.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS

FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE

L8 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:581493 CAPLUS

DOCUMENT NUMBER: 135:137842

TITLE: Process for the epoxidation of olefins using a product-stream predistillation step and unit

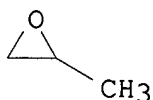
INVENTOR(S): Hofen, Willi; Thiele, Georg; Moller, Alexander

10/526,045

PATENT ASSIGNEE(S): Degussa A.-G., Germany
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1122248	A1	20010808	EP 2000-102544	20000207
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2399129	AA	20010809	CA 2001-2399129	20010203
WO 2001057010	A1	20010809	WO 2001-EP1166	20010203
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
BR 2001008063	A	20021105	BR 2001-8063	20010203
EP 1254126	A1	20021106	EP 2001-911586	20010203
EP 1254126	B1	20030702		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
AT 244231	E	20030715	AT 2001-911586	20010203
JP 2003521544	T2	20030715	JP 2001-556860	20010203
ES 2202281	T3	20040401	ES 2001-1911586	20010203
ZA 2002005200	A	20030929	ZA 2002-5200	20020627
NO 2002003553	A	20020725	NO 2002-3553	20020725
US 2003114694	A1	20030619	US 2002-203184	20021004
US 6646141	B2	20031111		
PRIORITY APPLN. INFO.:			EP 2000-102544	A 20000207
			WO 2001-EP1166	W 20010203

IT 75-56-9P, Propylene oxide, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for the epoxidn. of olefins using a product-stream predistn. step and unit)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



10/526,045

AB A continuous process for the epoxidn. of olefins (e.g., methyloxirane from propylene) with hydrogen peroxide using a product-stream predistn. step and unit is described and a process flow diagram presented.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE

L8 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:581492 CAPLUS

DOCUMENT NUMBER: 135:137841

TITLE: A continuous and cost-effective process for the catalytic epoxidation of olefins for the manufacture of propylene oxide from

countercurrently

contacted liquid and gas-phase streams of hydrogen peroxide and propene

INVENTOR(S): Hofen, Willi; Thiele, Georg

PATENT ASSIGNEE(S): Degussa A.-G., Germany

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1122247	A1	20010808	EP 2000-102543	20000207
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
TW 518328	B	20030121	TW 2001-90100764	20010112
WO 2001057011	A1	20010809	WO 2001-EP1167	20010203
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001035448	A5	20010814	AU 2001-35448	20010203
EP 1254125	A1	20021106	EP 2001-907491	20010203
EP 1254125	B1	20030723		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
ES 2199208	T3	20040216	ES 2001-1907491	20010203
US 2003092920	A1	20030515	US 2002-203186	20021004
US 6670492	B2	20031230		

10/526,045

PRIORITY APPLN. INFO.:

EP 2000-102543

A 20000207

WO 2001-EP1167

W 20010203

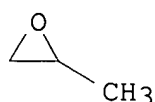
IT 75-56-9P, Methyloxirane, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(continuous and cost-effective process for the catalytic
epoxidn. of olefins for the manufacture of propylene oxide from
countercurrently contacted liquid and gas-phase streams of
hydrogen peroxide and propene)

RN 75-56-9 CAPLUS

CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB A cost-effective continuous process for the catalytic epoxidn.
of olefins, especially for the manufacture of propylene oxide from
hydrogen

peroxide and propene, is presented which comprises bringing a gas
phase, which contains the olefin (e.g., propylene), into countercurrent
contact with a liquid phase, containing the hydrogen peroxide
, in the presence of an epoxidn. catalyst (e.g., titanium silicalite).
Process flow diagrams are presented.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR
THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L8 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:625146 CAPLUS

DOCUMENT NUMBER: 136:342501

TITLE: Selective hydrogenation of C3 fraction in
catalytic distillation column

AUTHOR(S): Yu, Zaiqun; Gao, Buliang; Zhang, Jinyong

CORPORATE SOURCE: Research Institute of Qilu Petrochemical Corp.,
Zibo,

255400, Peop. Rep. China

SOURCE: Xiandai Huagong (2001), 21(7), 23-26

CODEN: HTKUDJ; ISSN: 0253-4320

PUBLISHER: Zhongguo Huagong Xinxì Zhongxin

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

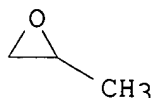
IT 75-56-9, Propylene oxide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(selective hydrogenation of C3 fraction in catalytic distillation
column to propene)

RN 75-56-9 CAPLUS

CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB While completing separation of C3 and C4, the methylacetylene and propadiene

(MAPD) contained in C3 fraction were hydrogenated selectively in a catalytic distillation column. When the pressure of the catalytic column was

1.6-2.0 MPa, the yield of propylene can reach 102%, while the content of

MAPD overhead can be reduced to 1.5×10^{-5} . The effects of pressure, space velocity, reflux ratio and H₂/MAPD molar ratio on the yield were studied. The activity and selectivity of catalyst used in this experiment

remained stable after 1840 h of continuous operation, which showed that the catalytic distillation process had advantage over trickle-bed process with regard to maintaining the stability of catalyst.

L8 ANSWER 13 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:659344 CAPLUS

DOCUMENT NUMBER: 131:272326

TITLE: Process for the preparation of peroxidation products from mixed olefin and

paraffin

feedstocks

INVENTOR(S): Young, Desmond Austin; Pretorius, Rudolph Johannes; Smit, Franchuan; Kruger, Friedrich Wilhelm Hein; Monkhe, Thabo Vincent

PATENT ASSIGNEE(S): Sasol Technology (Proprietary) Limited, S. Afr.

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

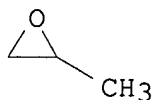
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9951557	A1	19991014	WO 1999-IB543	19990329
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

10/526,045

RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB The catalytic activity of Au deposited on Ti-MCM-41 and on TiO₂ dispersed on silica was evaluated in epoxidn. of propylene and in selective oxidation of propane to acetone and of isobutane to t-butanol with a H₂-O₂ mixture under flow. The oxidation of propylene showed a relatively long induction period, about 1.5 h at 373 K and becomes longer at 323 K; H consumption is about double that over Au/TiO₂/O₂. The proposed reaction mechanism involves coverage of the surface of Au particles by the hydrocarbon; at the Au surface, H₂O₂ forms from H and O and migrates to free Ti sites where it is transformed to the hydroperoxo species. The hydrocarbon adsorbed on the surface of the catalyst then reacts with the

hydroperoxo species to yield oxygenates. (c) 1999 Academic Press.
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS

FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE

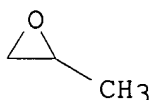
L8 ANSWER 19 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1971:464587 CAPLUS
DOCUMENT NUMBER: 75:64587
TITLE: Recovery of propylene and propylene oxide by selective separation with plural stage distillation, propylene oxide absorption, and subsequent distillation
INVENTOR(S): Hooray, Sadok E.; Newman, Stanley F.; Vincent, Robert
PATENT ASSIGNEE(S): E. Shell Oil Co.
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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10/526,045

US 3580819	A	19710525	US 1969-817721	19690421
NL 7005654	A	19701023	NL 1970-5654	19700420
PRIORITY APPLN. INFO.:			US 1969-817721	A 19690421

IT 75-56-9P, preparation
RL: PREP (Preparation)
(separation of, from propene, by absorption-distillation)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB Pure propylene and propylene oxide (I) were sep. recovered from crude I containing propylene 20.5, propane 3.8, H₂O 0.6, I 8.1, Me(Ph)CHOH 18.8, MeCOPh 6.6, PhEt 41.0, and ethylbenzene hydroperoxide 0.5% by 2-stage distillation, I absorption, and subsequent distillation. The crude I mixture was distilled at 135° and 100 psig and propylene was obtained overhead. The liquid bottoms was fractionated at 35 psig to give I overhead containing some propylene and H₂O and a liquid bottoms of higher boiling materials. I was separated from the second distillation overhead by selective absorption in an aqueous solvent and was purified by distillation from the solvent mixture.

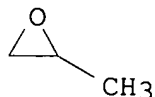
L8 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1971:63881 CAPLUS
DOCUMENT NUMBER: 74:63881
TITLE: Distillation method for recovering propylene
PATENT ASSIGNEE(S): Shell Internationale Research Maatschappij N. V.
SOURCE: Neth. Appl., 9 pp.
CODEN: NAXXAN
DOCUMENT TYPE: Patent
LANGUAGE: Dutch
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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NL 7005654	A	19701023	NL 1970-5654	19700420
US 3580819	A	19710525	US 1969-817721	19690421
PRIORITY APPLN. INFO.:			US 1969-817721	A 19690421

IT 75-56-9P, preparation
RL: PREP (Preparation)
(manufacture of, propene recovery in)

10/526,045

RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB In the catalytic preparation of propylene oxide, the reaction mixture is distilled at 7-20 atm to yield a top fraction of propylene, leaving some propylene in the bottom fraction. The latter is distilled to yield a top fraction of propylene and propylene oxide, and byproduct bottoms. The top fraction is scrubbed with H₂O to yield propylene and aqueous propylene oxide. For instance, propylene was treated with phenethyl hydroperoxide in PhEt at 110° over TiO₂-SiO₂. The product contained propylene 20.5, propane 3.8, H₂O 0.6, propylene oxide 8.1, PhMeCHOH 18.8, PhAc 6.6, PhEt 41.0, and phenethyl hydroperoxide 0.5 weight %. Distillation at 7.7 atm and 135° yielded propylene at the top, and bottoms of propylene 3.9 propane 0.7, H₂O 0.7, propylene oxide 10.2, PhMeCHOH 23.8, PhAc 8.4, PhEt 51.8, and phenethyl 0.6 weight %. Distillation at 2.5 atm gave a top of propylene and propylene oxide, which was scrubbed with H₂O at 120°, yielding propylene and aqueous propylene oxide. The latter was fractionated to yield propylene oxide.

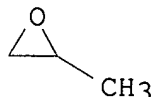
L8 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1970:55230 CAPLUS
DOCUMENT NUMBER: 72:55230
TITLE: Oxiranes
INVENTOR(S): Kaplan, Richard
PATENT ASSIGNEE(S): Halcon International, Inc.
SOURCE: Fr., 7 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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FR 1555725		19690131	FR	19671122
DE 1668223			DE	
GB 1205405			GB	
US 3523956		19700811	US	19661123
ZA 6707056		19670000	ZA	
PRIORITY APPLN. INFO.:			US	19661123

IT 75-56-9P, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)

10/526,045

(manufacture of)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB 1,2-Epoxypropane (I) was prepared from MeCH:CH₂ (II) by reaction with an organic peroxide, using a Mo catalyst. An alc. was formed as by-product and was recovered from the reactor effluent, after removal of

the catalyst, by treatment with aqueous base. Thus, EtPh in the liquid phase

was oxidized with air at 140° to give 12% Ph(CH₂)₂O₂H (III). II 15, III solution 80, and a 0.3% solution of Mo 0.6 g were placed in a 15 0 ml

stainless steel bomb and heated 75 min at 120° to give 72 I and 83 Ph(CH₂)₂OH (IV) per 100 moles III. The residual liquid fraction was shaken 15 min with 5 g M NaOH/100 g which resulted in the loss of 0.4

IV and 2% I. The use of M NaOH saturated with BzONa gave similar results.

Distillation of the base-treated organic phase, after elimination of I and EtPh,

gave a residue containing principally IV, with small amts. of BzMe and higher boiling compds.

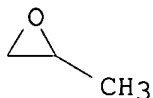
L8 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1968:45632 CAPLUS
DOCUMENT NUMBER: 68:45632
TITLE: Electrochemical production of olefin oxides
INVENTOR(S): Kroenig, Walter; Konrad, Peter
PATENT ASSIGNEE(S): Farbenfabriken Bayer A.-G.
SOURCE: Ger., 3 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 1252649		19671026	DE	19660125
FR 1508921			FR	
GB 1176650			GB	
US 3497431		19700224	US	19670112

IT 75-56-9P, preparation
RL: PREP (Preparation)

10/526,045

(from propylene, electrolytic cell for)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



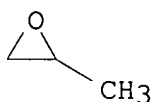
AB In the electrochem. production of olefin oxides from monoolefins or halogenated monoolefins, the starting materials are passed from the anodic chamber through a membrane of asbestos, poly(fluorohydrocarbons), polyolefins, polyvinyl compds. or mixed polymers and through a wire-mesh cathode into the cathodic chamber where the products are separated and the electrolyte is recycled. The average hydrostatic pressure in the anode chamber is 10-700 mm. higher than in the cathode chamber and does not deviate by >20% throughout the cell. The average gas load of the horizontal cross section of both chambers does not deviate by >20% which is achieved by using slanted cell walls. Using an electrolytic cell consisting of plate-type Pt-plated Ti anode, a wire mesh cathode (100 mm. wide, 750 mm. high), polyacrylonitrile fiber membrane placed 10 mm. from the anode, and the walls of the cell slanted so that the distance at the lower end of the cathode is 1 mm. and at the upper end 4 mm., 10 l. of 5 weight % KCl electrolyte/hr., and 112 l. of a C3-fraction containing 92% propylene and 8% propane were introduced into the anode chamber (pressure 120 (±20%) mm.) and 6.3 amp./dm.² anode surface area was applied at 52°. The average gas load in both chambers was 10 l./cm.² hr. Twenty-four percent of the propylene was converted and the reaction product contained propylene oxide 89.0, 1,2-dichloropropane 8.0, propylene glycol 0.7, propylene chlorohydrin 0.7, other organic products 0.9, O₂ 0.5, and CO₂ 0.2%.

L8 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1966:59797 CAPLUS
DOCUMENT NUMBER: 64:59797
ORIGINAL REFERENCE NO.: 64:11174e-f
TITLE: Propylene oxide and butylene oxide
INVENTOR(S): Kaliberdo, L. M.; Vaabel, A. S.; Torgasheva, A. A.; Zhukova, G. G.; Popova, N. I.

10/526,045

SOURCE From: Byul. Izobret. i Tovarnykh Znakov 1965(22), 21..
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

	PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
	SU 176254		19651102	SU	19630330
IT	75-56-9, Propylene oxide (manufacture of)				
RN	75-56-9 CAPLUS				
CN	Oxirane, methyl- (9CI) (CA INDEX NAME)				



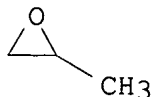
AB The title compds. are prepared by direct oxidation of propylene, of the propane-propylene fraction, or of butylene, in the presence of a Ag-Al catalyst. The selectivity of the process is improved and the yield of products is increased by conducting the oxidation in the presence of propyl chloride or isobutyl chloride on a catalyst containing 3-5% Ag on Al shavings with the addition of 0.1-0.2% Ba, based on the weight of the Al.

L8 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1963:441621 CAPLUS
DOCUMENT NUMBER: 59:41621
ORIGINAL REFERENCE NO.: 59:7491c-e
TITLE: Oxiranes
INVENTOR(S): Trager, Fred C.
PATENT ASSIGNEE(S): Pittsburgh Plate Glass Co.
SOURCE: 16 pp.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
PATENT INFORMATION:

	PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE -----
	BE 622988		19630115	BE	
	FR 1344345			FR	
	GB 998976			GB	
PRIORITY APPLN. INFO.:				US	19611023
IT	75-56-9, Propylene oxide (manufacture of)				

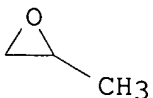
10/526,045

RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



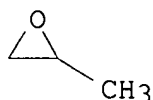
AB Glycerol dichlorohydrin (I) is mixed with an aqueous suspension (Blaine surface 20,000 sq. cm./g.) of Ca(OH)₂ and the mixture treated with a counter-current of steam in a distillation column in a continuous process to give epichlorohydrin. Thus, I (3.29%, prepared from aqueous HOCl and ClCH₂CH:CH₂) is introduced into a reactor at 98.85 g./min., a solution containing a suspension of 100 g. Ca(OH)₂/l. simultaneously added at 19.11 ml./min., the mixture removed from the reactor at 50°, passed into a fractionating column of 10 plates at 125.40 g./min., steam introduced into the column at 18.40 g./min., the vapors are condensed, and the 2 phases of the condensate separated. The bottom phase is distilled to give epichlorohydrin at 1.90 g./min.; the upper phase is recycled, and 684.1 g product is obtained after 6 hrs.

L8 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1964:68551 CAPLUS
DOCUMENT NUMBER: 60:68551
ORIGINAL REFERENCE NO.: 60:12111a-d
TITLE: Polymerization of cyclic ethers. I. Ring-opening polymerization of alkylene oxides by anhydrous boric acid-metal halide catalysts
AUTHOR(S): Yamashita, Iwao; Miyakawa, Takaharu
CORPORATE SOURCE: Osaka Inst. Ind. Technol., Japan
SOURCE: Kogyo Kagaku Zasshi (1963), 66(8), 1116-20
CODEN: KGKZA7; ISSN: 0368-5462
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
IT 75-56-9, Propylene oxide
(polymerization of, B₂O₃ and halides as catalysts in, and reaction of B₂O₃ with propylene oxide in relation thereto)
RN 75-56-9 CAPLUS
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



(polymerization of, H_3BO_3 esters, ZnCl_2 , etc., as catalysts in
 AB First, the reaction of anhydrous boric acid (I) with ethylene oxide
 (II)
 and propylene oxide (III) was studied at 80° in N to give a glassy
 solid estimated to be a I ester of polyalkylene glycol, the hydrolysis
 of
 which by moisture in the air gave H_3BO_3 and polyalkylene glycols (range
 from dimer to pentamer). The co-existence of any kind of metal halides
 caused high polymerization of II and III at 80° in N. These
 halides were ZnCl_2 and AlCl_3 for II, and ZnCl_2 and FeCl_3 for III.
 Thus,
 the system I- ZnCl_2 (B:Zn = 1:1) gave poly(ethylene oxide) in 92% yield
 for
 2.5 days and poly(propylene oxide) in 93% yield for 3 days. I- AlCl_3 (B
 :Al = 1:1) gave poly(ethylene oxide) in 75% yield for 5 days, and
 I- FeCl_3
 (B:Fe = 1:1) gave poly(propylene oxide) in 96% yield for 4 days.
 Poly(propylene oxide) polymerized by I- ZnCl_2 and I- FeCl_3 had
 Me_2CO -insol.
 fractions up to 8 and 20%, resp. The insol. fractions
 were highly crystalline and had a high mol. weight. Most
 representative was one
 made with the system I- ZnCl_2 (0.9 weight %), which gave 84%
 poly(propylene glycol) having an insol. fraction of 29% having
 mol. weight $16.5 + 104$. Epichlorohydrin and styrene oxide were also
 polymerized by using the catalyst I- FeCl_3 , and I- ZnCl_2 , giving 56 and
 92%
 polymer in 5 and 56 days, resp. The former polymers showed an
 existence
 of 35% Me_2CO -insol. fraction (m. $114-19^\circ$). The systems
 $\text{B}(\text{OMe})_3\text{-AlCl}_3$, $\text{B}(\text{OPh})_3\text{-AlCl}_3$, and $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O} \cdot \text{ZnCl}_2$ also showed a
 polymerizing ability for II at 80° , giving 71, 25, and 86% polymer
 in 6, 12, and 4.5 days, resp.

L8 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1964:410951 CAPLUS
 DOCUMENT NUMBER: 61:10951
 ORIGINAL REFERENCE NO.: 61:1747c-e
 TITLE: Reactions of nitrogen oxides with organic oxides of
 the ethylene series
 AUTHOR(S): Istratov, E. N.; Kobazev, I. A.
 SOURCE: Dokl. Mosk. Sel'skokhoz. Akad. (1963), No. 89,
 554-9
 DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable
 IT 75-56-9, Propylene oxide
 (reaction with nitrogen oxides)
 RN 75-56-9 CAPLUS
 CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB N2O4 (I) (60 g.) was added dropwise with cooling with a salt-ice mixture to

34 ml. ethylene oxide (II) dissolved in 200 ml. absolute Et2O over 2 hrs. and

allowed to stand 24 hrs. at 0° to complete the reaction

(disappearance of the N oxides). After topping off ether, 74.4 g. yellow

oil remained, which on fractionation in vacuo yielded 2

fractions, the 1st of which was identified as nitrite-nitrate of ethylene glycol CH2(ONO)CH2ONO2 (III), b. 51-3°/9 mm., d20 1.3359, n20D 1.4210, the 2nd as the mononitrate of ethylene glycol (IV), b. 85.5-7.0°/8 mm., d22 1.3127, n22D 1.4378. IV is a secondary

reaction product that forms from III through hydrolysis by traces of water

during the distillation The reaction between N2O3 (V) and II yielded III, IV,

and CH2(OH)CH2NO2, which is assumed to be the hydrolysis product of the originally formed CH2(ONO)CH2NO2. The reaction between I and propylene oxide (VI) conducted in above described conditions yielded analogous fractions MeCH(ONO)CH2ONO2, b. 72-4°/4 mm., d20 1.2475, n20D 1.4192 and MeCH(OH)CH2ONO2, b. 148-9°/4 mm., d20 1.2417, n204 1.4368. V and VI yielded the same 2 products. I and epichlorohydrine yielded ClCH2CH(ONO)CH2ONO2, b. 45-7°/4 mm., d20 1.4294, n20D 1.4592, and ClCH2CH(OH)CH2ONO2, b. 103-5°/4 mm., d20 1.4254, n20D 1.4720.

L8 ANSWER 33 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1963:44733 CAPLUS

DOCUMENT NUMBER: 58:44733

ORIGINAL REFERENCE NO.: 58:7602e-f

TITLE: The action of halogermanes on cyclic ethers

AUTHOR(S): Pike, R. M.; Lavigne, A. A.

CORPORATE SOURCE: Lowell Technol. Inst., Lowell, MA

SOURCE: Recueil des Travaux Chimiques des Pays-Bas (1963), 82,

49-50

CODEN: RTCPA3; ISSN: 0165-0513

DOCUMENT TYPE: Journal

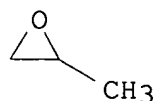
LANGUAGE: English

IT 75-56-9, Propylene oxide

(reaction with GeCl4, GeBrPh3 and GeClPh3 in presence of MgBr2)

RN 75-56-9 CAPLUS

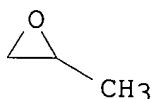
CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB Tetrachlorogermane (I), triphenylchlorogermane, and triphenylbromogermane (II) refluxed with either propylene oxide (III) or 1,2-epoxy-3-methoxypropane (IV) in the presence of MgBr_2 gave alkoxy substituted Ge compds. Thus, 1.85 g. II, 15 ml. IV, and 0.1 g. MgBr_2 refluxed for 5 hrs., the mixture extracted with petr. ether, and the extract concentrated yielded 0.66 g. of a waxy yellowish solid, m. $91-4^\circ$. This material was either $\text{Ph}_3\text{GeOCH}_2\text{CHBrCH}_2\text{OMe}$ or $\text{Ph}_3\text{GeOCH}(\text{CH}_2\text{Br})\text{CH}_2\text{OMe}$. Similarly, I refluxed with III gave several fractions b13-15 $123-95^\circ$, consisting of mono-, di-, tri-, and tetra-substituted products. These fractions hydrolyzed with dilute NaHCO_3 gave $\text{MeCH}_2\text{ClCH}_2\text{OH}$.

L8 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1953:62023 CAPLUS
 DOCUMENT NUMBER: 47:62023
 ORIGINAL REFERENCE NO.: 47:10549a-d
 TITLE: Ethers of allyl-type alcohols with halogen-containing substituted carbinols
 INVENTOR(S): Ballard, Seaver A.; Morris, Rupert C.; Van Winkle, John L.
 PATENT ASSIGNEE(S): Shell Development Co.
 DOCUMENT TYPE: Patent
 LANGUAGE: Unavailable
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	US 2608586		19520826	US	
IT	75-56-9, Propylene oxide (reaction with 3-chloropropene)				
RN	75-56-9 CAPLUS				
CN	Oxirane, methyl- (9CI) (CA INDEX NAME)				



GI For diagram(s), see printed CA Issue.
 AB $\text{CH}_2\text{:CHCH}_2\text{Cl}$ (I) and $\text{ClCH}_2\text{CH.CH}_2\text{O}$ (II) at $130^\circ-90^\circ$ in the

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presence of a cuprous salt and with agitation give good yields of $(\text{ClCH}_2)_2\text{-CHOCH}_2\text{CH:CH}_2$ (III). Thus, into a pressure-resistant glass vessel

of about 1.5-in. inside diameter and 10 in. long was introduced a mixture of 93

g. (1.1 moles) II and 84 g. I, 5 g. Cu foil 0.002 in. thick, suspended in

the mixture, the vessel sealed, heated 15 hrs. to $180-5^\circ$, allowed to cool, and the liquid decanted and fractionated to give III, b₄₅ 104° , n_D20 1.4672, d₂₀ 1.166. The conversion was 62.9% based on II and 57.1% on I, and the yield 70.5% based on II and 90% on I.

Similarly I

and propylene oxide give a 71% conversion to $\text{MeCH(OCH}_2\text{CH:CH}_2\text{)CH}_2\text{Cl}$, b₅₀ $64-5^\circ$; I and glycidyl allyl ether give the diallyl ether of $\text{HOCH}_2\text{CH(OH)CH}_2\text{Cl}$, b₅₀ $126.5-8.5^\circ$, n_D20 1.4570, d₂₀ 1.0357; $\text{ClCH}_2\text{CH:CHCl}$ and I give $(\text{ClCH}_2)_2\text{CHOCH}_2\text{CH:CHCl}$, b₂₀ $125-7^\circ$, n_D20 1.4930, d₂₀ 1.3048; $\text{CH}_2\text{:CMeCH}_2\text{Cl}$ and II give $(\text{ClCH}_2)_2\text{-CHOCH}_2\text{CMe:CH}_2$,

b₅₀

$116-17^\circ$. These compds. are useful as intermediates in the preparation of polymeric compns. Cf. following abstract and cf. U.S. 2,448,258, C.A. 43, 1216g; and U.S. 2,545,689, C.A. 45, 5449d.

L8 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2006 ACS on STN

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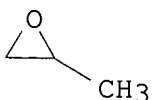
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IT 75-56-9, Propylene oxide
(alkoxy derivs., reaction with ethylenediamine)

RN 75-56-9 CAPLUS

CN Oxirane, methyl- (9CI) (CA INDEX NAME)



AB cf. C.A.42, 1882i. A number of disubstituted ether NH₂ alcs., $[\text{ROCH}_2\text{CH(OH)CH}_2\text{NHCH}_2]_2$ (I), have been prepared by the reaction of $\text{ROCH}_2\text{CH}_2\text{CH}_2\text{O}$ (II) with $(\text{CH}_2\text{NH}_2)_2$ (III). Adding dropwise 6.7 cc. concentrated

H_2SO_4 to 1045.8 g. $\text{C}_7\text{H}_{15}\text{OH}$ and 278 g. $\text{CH}_2\text{ClCH}_2\text{CH}_2\text{O}$ with stirring, refluxing the mixture 6 hrs., stirring the cooled mixture with 30 g. BaCO_3 and

fractionally distilling the filtrate give 21.3% 1-chloro-2-hydroxy-3-

10/526,045

heptyloxypropane (IV), b20 145.4-6.4°, d425 0.9862, nD25 1.4482, mol. refraction (MR) 56.68. In the same way are prepared the 3-octyloxy homolog, 31.4%, b7 133.4-6.4°. d425 0.9311, nD25 1.4438, MR 63.52, and the 3-decyloxy homolog, 27.9%, b10 167.8-8.8°, d425 0, 9568 nD25 1.4523, MR 70.75. Adding 30 g. powdered NaOH to 104.36

g. IV

with ice-cooling, stirring the mixture 8 hrs. at 20°, adding 150 cc. H2O, extracting with ether, and distilling the ether residue give

77.2%-compound (V)

(II, R = C7H15), b20 115.7-16.2°, D425 0.8879, nD25 1.4299, MR 50.107; octyloxy homolog (II, R 6 = C8H17), 63.3%, b20 130-30.2°, d425 0.8860, nD25 1.4317, MR 54.505; decyloxy homolog (II, R = C10H21), 77.4%, b20 156-6.5°, d425 0.8804, nD25 1.4377, MR 63.873. Adding dropwise 25.4 g. V to 16.5 g. boiling III and refluxing the mixture 6

hrs.

give 9.9% N,N'-bis(2-hydroxy-3-heptyloxypropyl)ethylenediamine (I, R = C7H15), m. 112.8-13.8°. In the same way the following I are prepared: R = Me, 121.7%, m. 137.9-8.9°; Et, 17.6%, m.

131.4-1.9°; Pr, 12%, m. 130.4-30.9°; Me2CHCH2, 13.9%, m.

125.9-6.4°; C5H11, 11.5%, m. 114.8-15.3°; 3-iso-Am, 13.5%,

m. 107.9-8.9°; C6H13, 21.2%, m. 113.8-14.8°; C8H17, 16.1%,

m. 107.9-8.9°; C10H21, 22.9%, m. 105.5.9-7.9°. I show some

amebic activity in vitro when R is greater than Et and the activity increases to an optimum when R is C8H17; in vivo I have little effect

in

the rat at maximum tolerated doses. I are ineffective against flu, rabies,

St. Louis encephalitis, mumps, cowpox, Meningo pneumonitis, equine encephalitis, and typhus.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

237.97

247.06

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-30.75

-30.75

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